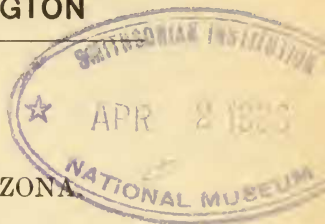


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A NEW AGAVE OF SOUTHERN ARIZONA

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One of the most widely distributed and best known Agaves of southern Arizona is *A. palmeri* Engelm. This species shows considerable variation, but one of the forms that has passed under the name *palmeri* is so strikingly different from the typical form of the species that the writer ventures to describe it as a new species.

Agave chrysantha, sp. nov.

Planta solitaria, acaulescens; folia elongata lineari-lanceolata, margine carnosa, ad apicem cornea, spinis recurvatis vel flexuosis praedita, spina terminali tenui tereti infra non profunde canaliculata, decurrente; scapus procerus, bracteis anguste triangularibus acutissimis instructus, paniculae ramis patentibus aliquantum complanatis; flores dense aggregati, pedicellis brevibus parum tenuibus; perianthium cylindraco-urceolatum, segmentis oblongis obtusis aureis; filamenta lutea, prope medium tubi inserta; capsulae anguste obovatae breviter rostratae et stipitatae; semina parva, nigra, non nitida.

Characters not stated in the Latin diagnosis are as follows: Leaves 40 to 100, rigid, straight or slightly curved or twisted, gray green, smooth, sometimes a little narrowed below the middle, 40 to 85 cm. long, or occasionally much longer, 5 to 12 cm. wide, acuminate, strongly concave except at base where swollen and plano-convex, varying in thickness from 5 mm. near the middle to 4.5 mm. near the base; end spine reddish-brown and glossy or gray and dull, 4 to 5 cm. long, 4 to 5 mm. in diameter at base, the horny tissue decurrent on the leaf margin to the upper lateral spines, forming a naked acumination 10 to 20 cm. in length, the fleshy, undulate or straight margin with spines reddish-brown or gray below, diverse in size, mostly 10 mm. long and 2.5 to 3.0 cm. apart, at the base of the leaf rudimentary and only 1 cm. apart. Scape 4.5 to 8.0 meters high, the bracts gray, up to 18 cm. long, terminating in a reddish-brown, subulate spine. Panicle with lateral branches 15 to 40 cm. long. Flowers 4.0 to 4.5 cm. long, 100 to 300 in dense clusters sometimes 30 cm. broad. Perianth funnelliform in dried flowers, tube 8 mm. deep, 8 mm. in diameter, the

segments 10 mm. long, 4 mm. broad, hooded, comose, "deep chrome"¹ above, paler below, the outer ones slightly broader at base and more strongly hooded than the inner, the inner segments with a high, lanceolate, acute dorsal ridge 3 mm. broad at base and extending from base of tube nearly to apex of segment. Filaments flattened, finally 3 cm. long, pale orange-yellow. Anthers "empire yellow,"² 12 to 17 mm. long. Style pale orange-yellow, 1.5 mm. in diameter, at anthesis equalling the perianth, finally 4 cm. long. Stigma 2.5 mm. in diameter. Ovary 2 to 2.5 cm. high, 4 to 6 mm. in diameter, pale green. Capsules 2.7 to 3.7 cm. long, 1.3 to 1.7 cm. in diameter, on pedicels 4 to 6 mm. long. Seeds dull black, 3.5 mm. long, 5 mm. wide.

TYPE LOCALITY: Queen Canyon, Pinal Mountains, Arizona. Type in the U. S. National Herbarium, no. 1,624,655, a flowering specimen collected by R. H. Peebles and G. J. Harrison (no. 5543), June 21, 1928. Leaf and fruit are represented by *Peebles* no. 7940, collected at the same place, July 16, 1931.

GEOGRAPHICAL DISTRIBUTION: Southern central Arizona, in the Pinal and Santa Catalina Mountains, commonly at elevations of 1,000 to 1,800 meters.

When in flower *A. chrysantha* is a striking and attractive feature of its native mountains. It is especially fine and abundant in the canyons above Superior, Pinal County. The golden-yellow flowers are copiously nectariferous and emit a strong odor resembling that of coconut meat. Reproduction is by means of the numerous and highly fertile seeds and by offsets, rarely by bulbils developed in abnormal flower clusters.³

This species has been known for many years as a yellow-flowered form of its close relative, *A. palmeri* Engelm., from which it may be distinguished, however, by the color of the flowers, the densely crowded flower and fruit clusters, the shorter and relatively broader capsules, and the more widely spaced lateral spines of the leaves. *A. chrysantha* has not been found within the range of the purple-flowered *A. palmeri*, which the writer has collected in the Pinaleno, Patagonia, and Santa Rita Mountains, nor has the latter been seen within the range of *A. chrysantha*.

A colony of extremely variable forms of *Agave* grows along Chimney Creek, at the southern base of the Rincon Mountains. These plants are more nearly related to *A. palmeri*, but the flowers range in color from dark purple to pale yellow and exhibit many other variations. This diversity and the intermediate nature of some of the characters suggest hybridization between *A. palmeri* and *A. chrysantha*, but neither of these species has been observed, in typical form, at this station.

¹Ridgway, Robert. *Color Standards and Color Nomenclature*. 1912, pl. III.

²Ridgway, *ibid.* pl. IV.

³Gibson, Fred. *Desert Plant Life*, November, 1932.